The last part of the book (Chapters 7–10) concerns the applications to various problems of interest in Civil, Mining and Petroleum Engineering. They are related to the determination of the *in situ* stress state in rock masses, to the deformation and possible failure of tunnels and deep boreholes, to the stability of rock chambers.

The matter condensed in this book covers a wide range of experimental, theoretical and practical problems in a straightforward, 'didactic' manner. This makes it particularly suitable for use as a text book for graduate students. In addition, it has a sound engineering basis and contains a number of practical hints that suggest it as a valuable support for designers and consultants operating in the field of Rock Engineering.

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VIBRATION ANALYSIS AND FOUNDATION DYNAMICS, N. S. V. Kameswara Rao, New Delhi, 1998, ISBN 81 7544 001 5

The book 'Vibration Analysis and Foundation Dynamics' by Professor N. S. V. Kameswara Rao is a welcome addition to the field of geotechnical engineering in general and to the subject of Soil and Foundation Dynamics in particular. Most of the books available presently are primarily Geotechnical Engineering-based while the above one presents the subject matter from the perspective of Engineering and Continuum Mechanics while at the same time covering numerical analysis, the design and the construction aspects. Professor Kameswara Rao is an acknowledged expert on the subject and brings out in this book the vast experience he has gained while teaching and practising the field over the last 30-odd years.

As the title aptly conveys, the first-half of the book discusses the analysis of vibrations. After a brief introduction, the basic concepts of dynamic systems have been dealt with in detail in Chapter 2. Free and forced vibration analyses of single- and multi-degrees-of-freedom systems without and with viscous, Coulombic and hysteretic damping are covered in Chapters 3 and 4. Numerical solutions of free and forced vibration problems are covered in the next two chapters (Chapters 5 and 6). The topic of vibrations of continuous media with emphasis on one, two- and three-dimensional problems follows in Chapter 7.

In the second-half of the book, the basic principles developed in the earlier chapters are applied to foundations subjected to dynamic loads (Chapter 8). Analysis of both block and pile foundations has been discussed in detail. The topics of physical modelling, discrete and continuum analysis, and methods of analysis with detailed notes on determining the relevant parameters are extensively covered in the above chapter. The application of the powerful tool of the Finite Element Method to solve foundation dynamics problems is illustrated in Chapter 9. Chapter 10 covers the subject matter relating to framed foundations and structures.

The next three chapters are concerned with some practical aspects of foundation dynamics, viz., vibration isolation and control in Chapter 11, tests to determine the design parameters in Chapter 12 and the design and construction aspects in Chapter 13. The last chapter appropriately covers some of the advanced topics, notably the recently developed subject of wavelets.

The book is lucid and well written, the text running through 650 pages with nearly 290 figures facilitating the reader to easily follow and digest the material being presented. The book is particularly useful as a text book for the course on Foundation Dynamics at a postgraduate level as well as on Vibration Analysis at the undergraduate level. For the student, the problems given at the end of relevant chapters are very useful. The references listed at the end of each chapter are convenient, as the reader can locate them easily for further reading. Practising engineers and designers can have the best of both worlds in that the basics and the principles of design and construction of machine foundations are covered between one set of covers.

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